



Control of the square pulse properties in figure-of-eight microstructured fiber laser

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Résumé en anglais	<p>We numerically analyze the square pulse emission from a passively mode-locked figure-of-eight microstructured optical fiber laser. Numerical simulations demonstrate that the high nonlinearity of the microstructured fiber plays a key role in the output pulse duration. A dual-stage erbium-doped fiber amplifier has been used in the cavity. The first amplifier, localized in the nonlinear amplifying loop mirror, allows control of the pulse width, while the second amplifier in the unidirectional ring allows variation of the amplitude without affecting the pulse width. Our results give some physical insight to the square pulse formation and the generation of high-energy pulses. Our numerical model provides a general approach to control the properties of a square pulse, and hence could be of great importance for the design of practical high-energy fiber laser systems.</p>
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- [2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=9358>
- [3] <http://okina.univ-angers.fr/m.salhi/publications>
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- [5] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=9359>

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